An Analysis of the Need of Capital for Transportation in the United States

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THE American railway plant needs at least $3,500,000,000 of capital investment today. Within the next three years it will need at least $6,000,000,000 and perhaps $7,000,000,000; it needs this amount to enable it to handle the traffic now offered for transportation and the additional traffic that will be offered within the next three years. It needs it to give service commensurate with its place in our national life. It must have it if this nation is to weather the reconstruction period and prosper.

There has been an insistent cry lately for greater and greater production as an antidote for the poison of the bolshevistic doctrines which have permeated organized labor's ranks. In theory greater production—by means of which we may be able to return once more to the unhampered development of our industries—may be successful. But in practice greater production, to such an extent as would be necessary to lead labor back to the "honest day's work for an honest day's pay" basis, would more than likely result in national disaster—if our transportation facilities, inadequate for our present rate of production, are not largely developed. In other words, greater production without still greater development of our transportation plant is impracticable.

These estimates are perhaps appalling to the layman. Whatever the reaction, a few hours of delving into railway statistics, will convince even the most skeptical that, based upon past records of service rendered by given facilities, they are really the minimum. As a matter of fact, no one can state within many millions the need of the railroads for capital. In testifying before the House Committee on Interstate and Foreign Commerce recently, Alba B. Johnson, president of the Railway Business Association, representing between 2,000 and 3,000 railway supply companies, said:

> So far as we are aware, nobody has estimated for you the magnitude of the improvement to existing lines which the public interest requires to be made within any specified period in the future. If you were in possession of such estimates, who shall say how far short they would fall of the needs which may actually become manifest? Even if you had the power of divination to make approximate guesses at the requirements expressed in physical units and in units of work performed, what human agency can be brought to bear in the year of grace 1919 to compute the cost of carrying out such projects? Nobody knows what labor and materials will cost. How, then, can anybody predict within many millions a year how much capital would have to be raised to carry out projects approved?

The Inadequacy of Transportation Today

It is unquestionably true that our present transportation system is inadequate. Its inadequacy is well known to the public because of the projection of the railroad problem into the arena of common topics. The consequent question that naturally arises in the minds of those upon whom this inadequacy has been impressed is, "Why have our railroads been allowed

to so deteriorate?" And the question remains unanswered unless the interrogator has the patience to review years and years of statistical reports throughout which the intensifying of regulation, the growing inefficiency of labor, rising costs of both material and labor and other similar conditions are so intermingled that condensation is practically impossible. However, the one man in the United States, who, because of his position and because of his access to all of the facts, should be able to present a brief answer recently attempted to do so. Walker D. Hines, Director General of Railroads, in a recent address said:

> In the year or two preceding federal control of the railroads, the normal additions to cars and other transportation facilities were not made because prices were very high, labor was scarce and financing on the part of the railroad companies was unusually difficult. During the first year of government control there was a severe limitation on the amount of material that could be taken from other war purposes to use for providing additional railroad facilities. When the year 1919 began we were being confronted with a new difficulty in the way of adding to the facilities, and that was that federal control naturally was approaching its end from the time the armistice was signed. More than that the failure of the appropriation on the 4th of March last, which had been sought by the Railroad Administration to enable it to meet its obligations already incurred, postponed the construction of even the 100,000 cars that had been ordered, because they could not be paid for, and the equipment companies naturally had to slow down on their production. The railway companies were unwilling to furnish money for new equipment because of uncertainty as to their own future, so the result has been that the Railroad Administration since the year of 1919 has not been in a position to provide any additional facilities except those which were needed, as an emergency measure, unless the railroad companies were willing to furnish the money, and the result is that at the present time the Railroad Administration has been unable to order or obtain authority to order any cars in addition to the 100,000 that were ordered last year.
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> So that that inadequacy of facilities, which were inadequate before federal control began, and which have become increasingly inadequate since that time, principally accounts for the fact that the facilities now are not sufficient to handle all of the enormous business which is offered to the railroads of the country.

Transportation Requirements of the Future

So much for the fundamental causes of the present inadequacy of railroad facilities. What of the future? The cry for greater and greater production will undoubtedly be answered. As a matter of fact it has already caused enormous advances in the tonnage of commodities of every description offered to the railroads for movement. The result will be that the public interest will require that certain standards of service, of maintenance and of development be adhered to. It is safe to assume that these standards will be higher than those maintained before our unfortunate experience in government control and certainly much higher than those maintained during the past two years. The absolute minimum capital investment that will be required in the public interest, therefore, will be that sum which will place the railroads of the country in a position to fill successfully the nation's present transportation requirements plus whatever capital is necessary to provide facilities for handling any future increases in production. Computed from this viewpoint and on the basis of the past annual developments in relation to the service rendered, it is possible to arrive at a figure which may be said to be the minimum amount of new capital required by the railroads. There are several means of arriving at such an estimate. It may be estimated (1) on the basis of the increases which have occurred during normal periods, in the capital investment and in the

amount of traffic handled, and (2) by finding the deviation, during the period of government control, from averages established for capital expenditures for certain purposes during normal periods, to which must be added the approximate capital required to maintain the averages during the coming year and to provide the additional facilities necessary to give adequate service for increased traffic.

THE DEFICIT IN CAPITAL INVESTMENT AS COMPARED WITH TRAFFIC INCREASES

Mr. Hines, in outlining the causes of the inadequacy of service at the present time, said: "In the year or two before this country entered the war, the railway companies were unable materially to increase their facilities because of the difficulty of raising new capital." The intimation is, of course, that the trouble began in 1915. During the ten years, prior to this time, or from June 30, 1905 to June 30, 1915, freight tonnage (ton-miles) increased 61 per cent and passenger traffic (passenger-miles) increased 36 per cent. During the same period the investment made in new facilities was $5,300,000,000 or 44 per cent. Since June 30, 1915, the increase in freight traffic has been approximately 57 per cent and the increase in passenger traffic 32 per cent and the new investment in facilities but $1,900,000,000. The discrepancy during the past four and a half years can easily be seen. If the investment during this latter period had been as great *in proportion to the increase in traffic* as it was during this ten-year period, it would have been approximately $5,000,000,000. These figures, however, are based upon the purchasing power of a dollar between 1905 and 1915. Since that period this purchasing power has been greatly diminished. The 1905–1915 dollar during the 1915–1919 period had but approximately two-thirds of its former value. Equated on this basis the investment during the last four and a half years has been but $1,300,000,000. Taking this last figure as the actual investment during this period, it will be seen that capital investment in railways has fallen behind approximately $3,700,000,000 in four and a half years. At the present time, however, the purchasing power of the dollar has been still further diminished and we now find that it requires two dollars of capital investment to accomplish the same results that one dollar accomplished during the period from 1905 to 1915. If this deficiency in capital investment is to be made up now, and on the basis of the purchasing power of a dollar in 1919 or 1920, it will be found that it will take twice as much money, or $7,000,000,000 to make up the deficiency in railroad investment which has been allowed to accrue since 1915.

The statement has already been made, however, that it would require $3,500,000,000 rather than $7,000,000,000 to enable the railroads to provide adequate transportation facilities today. Substantial progress has been made during this four and a half year period, especially in 1916 and 1917, in increasing the efficiency of the present transportation plant. Car loading has been greatly increased, economies have been effected in the operation of cars and, since the Railroads' War Board was organized in 1917, facilities have been pooled and certain advantages accruing from unified control have been utilized. For this reason it is probable that the estimate of $7,000,000,000 is somewhat exaggerated. In order to be

certain that this development of efficiency is recognized, one half of this amount of $7,000,000,000 or $3,500,000,000 has been taken as representing the existing deficiency of investment.

This compilation brings us up to the present year. Any estimate at the present time as to the capital needs of railways during the year 1920 will in all probability be greatly in error for the reason that it is practically impossible to foretell what the condition of industry generally will be and how far reaching will be the effects of the cry for greater production. As already indicated the average annual capital investment during the years from 1905 to 1915 was approximately $530,000,000. Equating this sum on the basis of the present purchasing power of a dollar it will be seen that it would require at least $1,000,000,000 a year to provide the same amount of facilities during future years as were provided on an average during each year of this ten-year period. Were the existing deficiency of facilities to be made up during the next three years and in addition the normal growth of traffic during these three years provided for, the total investment in these years would be from $6,000,000,000 to $7,000,000,000. This estimate is based on the assumption that traffic will not increase more rapidly than it did during the period from 1905 to 1915.

Development of Certain Transportation Facilities

To substantiate the estimate already made and to indicate why and where certain capital expenditures are required, it might be well to investigate briefly the relation of the development of certain transportation facilities during normal periods of years and during the past four abnormal years.

The four items for which a large portion of capital expenditures are made are: mileage, freight cars, passenger cars and locomotives. Briefly the increase in the railroad mileage of the United States between 1905 and 1915 was approximately 40,000 miles or an average of 4,000 miles per year. Contrasted with this is the fact that during the past four years there has been practically no increase in mileage at all. It is true that during these four years, certain new mileage has been built, but the miles of road abandoned or torn up during that period have fully equalled the total number of new miles. If the average number of new miles had been constructed during each one of these four years we would have at the present time approximately 16,000 additional miles of line.

Insofar as freight cars are concerned, there has been an increase in their number in service of only 5 per cent during the last four and a half years as compared with an increase in the freight traffic of 57 per cent in the same period. Contrast this increase in traffic and the number of freight cars in service with the records established for the ten years ending with 1915 and the deficit is only too apparent. During this latter period the freight traffic of the country increased 61 per cent and the number of freight cars in service increased 36 per cent. The average cost of a freight car today is $3,000, and the present deficiency of freight cars is at least 300,000.

Practically the same conditions prevail in the matter of passenger cars. Between 1905 and 1915 the passenger traffic was increased 45 per cent and the number of passenger cars in service 36 per cent. Since that time the increase in passenger business has been approximately 32 per cent and there

has been practically no increase in the number of passenger cars. The deficiency in the number of passenger cars must be 10,000, and the average cost per car now is approximately $30,000.

In the matter of locomotives similar conditions prevail. In the period from 1905 to 1915 the number of locomotives in service was increased approximately 30 per cent. Since that time, and in spite of the enormous increase in traffic, there has been practically no increase in the number of locomotives. A locomotive today may be said to cost $50,000; and if we take the conservative view that only 10 per cent more locomotives are needed, this means a deficiency in locomotives of about 7,000.

To make any comprehensive estimate, it is necessary to compute not only the capital requirements for these four items, but also for a large number of other as important or even more important items, such as sidings, yards, shops, stations, etc.

THE FIELD FOR CAPITAL INVESTMENT

It is not possible to discuss the necessity for the investment of capital in transportation without taking cognizance of the chances of this investment actually being made in the future. Whether it will be made or not depends a great deal upon the provisions of such legislation as will be passed by Congress. At the present time the Cummins Bill prepared by Senator Cummins, chairman of the Senate Committee on Interstate Commerce, appears to be receiving the earnest consideration of law makers at Washington as the basis of whatever legislation may be framed. Insofar as its relation to the investment of capital in transportation is concerned, the bill provides that the Interstate Commerce Commission shall permit rates sufficient to produce a net annual operating revenue of $5\frac{1}{2}$ per cent figured on the basis of the property of the railroads of each territorial group as valued by the commission. An additional $\frac{1}{2}$ per cent may, in the discretion of the commission, be permitted to be earned and invested in unproductive improvements. The vital question that this provision raises is: Will capital flow into this field of investment under these conditions in sufficient quantity to gradually eliminate this deficit in development which has accrued since 1915 and provide an adequate system of transportation for the country in view of the greatly increased traffic which will undoubtedly be offered?

Certain interests claim that such a provision will enable the more prosperous roads to earn from 6 to 15 per cent while the less prosperous roads will be protected by a minimum return of $5\frac{1}{2}$ per cent. The provision states, however, that if a railroad receives an income of over 6 per cent, allowing $\frac{1}{2}$ per cent to be turned to unproductive improvements, the excess is to be divided between a reserve fund and a general railroad contingent fund. Therefore, other interests maintain that this division of so-called "excess earnings" will result in practical financial starvation. The result has been that there has been much opposition to this portion of the measure and it is not improbable that it will be greatly modified, especially in view of the necessity for capital investment to again bring our transportation system to something approaching a state of adequacy. Fortunately this phase of the bill will not be foreclosed by favorable action upon the part of Congress. The rate

of return can be changed if experience proves that it is inadequate to attract the necessary capital.

Increased production has been urged as the means of successfully combating industrial unrest. To make this movement successful there must be a still greater simultaneous development of transportation facilities. To provide for this greater development of transportation facilities enormous sums must be invested in our transportation plant. It rests upon Congress to pass such legislation as will attract capital into this particular field of investment.